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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/894,879	06/29/2001	Paul Glatkowski	38572.0024	4705

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EXAMINER

WYROZEBSKI LEE, KATARZYNA I

ART UNIT	PAPER NUMBER
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1714

DATE MAILED: 05/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

CR

Office Action Summary	Application No. 09/894,879	Applicant(s) GLATKOWSKI ET AL.	
	Examiner Katarzyna Wyrozebski	Art Unit 1714	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 23-49 and 52-103 is/are pending in the application.
- 4a) Of the above claim(s) 55-75 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 23-49, 52-54 and 76-103 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

This application has been suspended as of 11/26/2003 by the examiner for a period of 6 months. A relevant reference referred to in the notice of suspension is available, in view of which the prosecution of the present invention is re-opened.

Throughout the prosecution of the application the applicants have provided Declaration under 37 CFR paragraph 1.131 that discloses reduction to practice of the present invention to on or before June 30, 1998.

At the time of this office action claims 1-22, 50 and 51 are cancelled; claims 55-75 are non-elected claims; and claims 23-49, 52-54, 76-103 are examined.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 53, 54, 102, 103 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 53, 54, 102 and 103 contain limitation of "less than about", which limitation is considered indefinite. It is not clear if the transmitted level of radiation is less than 0.001% or about 0.001%. The same argument applies to the amount of the reflected radiation.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 23-49, 52-54, 76-103 are rejected under 35 U.S.C. 102(e) as being anticipated by SMALLEY (US 6,683,783).

The prior art of SMALLEY discloses polymer composites comprising carbon nanotubes (see Abstract).

Throughout the disclosure of the prior art of SMALLEY SWNT are taught having an aspect ratio, wherein the length of carbon nanotubes is 5-1000 nm (col. 2, lines 64-67 and claim 6) and diameter is 3, 5, 10, 30, 60 or 100 nm. Since aspect ratio of the fibers or nanotubes is length divided by diameter, then the nanotubes of SMALLEY have aspect ratios in a range of 0.5:1 to 333:1 (col. 6, lines 60-65) and for diameter of 13.8 Angstrom (col. 6, lines 35-37) the aspect ratio is as high as 769:1.

The carbon nanotubes of SMALLEY, depending on their use can be coated with metallic compound to serve as antenna (col. 18, lines 38-42).

Art Unit: 1714

In the composites of the prior art of SMALLEY the nanotubes are alligned in parallel (col. 37). The polymers utilized in the composites can be thermoplastic, thermosetting and natural polymers. Examples of polymers include polyesters, phenolics, polyimides, polyacrylates, epoxies and the like (col. 37-38). Col. 39 further discloses use of polypropylene, nylon, Kevlar or DNA, which is a natural polymer (lines 65-67).

The composites are utilized in the composition such as sonar dome, which require EMI shielding property, antennas, air frame of a plane (col. 40, lines 60-63). If the composite is to act as EMI shielding one of ordinary skill in the art would know that to perform such function the otherwise conductive carbon nanotubes cannot touch. In addition, one of ordinary skill in the art would also inherently know that in order to form articles mentioned by the disclosure of SMALLEY, use of equipment such as extruders and injection molding machined is required.

Although the prior art of SMALLEY does not disclose more specific ranges for the amounts of the nanotubes, claim 13 of the prior art states that there is at least one carbon nanotubes. Another examples discloses 1 gram of carbon nanotubes used with 10 grams of epoxy resin, in which case the amount of carbon nanotubes is 10 bpw (example 10, col. 49).

Since the composite of the prior art of SMALLEY encompasses the composite of the present invention, the properties that result from making of the composite, such as absorption wavelength, radiation transmittance or radiation reflectance are viewed as inherent.

In the light of the above disclosure the prior art of SMALLEY anticipates requirements of claims rejected above.

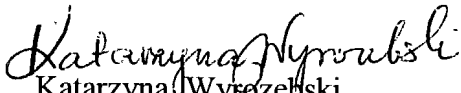
Art Unit: 1714

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Listed prior art, which resulted from STIC search is very much applicable to the claims of the present invention, however, it does not qualify as a prior art: CHANG (US 6,420,293), LeGRANDE (US 6,576,336), AJAYAN (US 2003/0165418), ZHAO (US 2002/0176650), PIENKOWSKI (US 6,559,961 and US 6,599,961), HADDON (US 6,641,793).

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Katarzyna Wyrozebski whose telephone number is (571) 272-1127. The examiner can normally be reached on Mon-Thurs 6:30 AM-4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571) 272-1119. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Katarzyna Wyrozebski
Primary Examiner
Art Unit 1714

May 13, 2004